A Common Data Model for Weed Monitoring Data

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Project Partners: Calflora, BAEDN, Cal-IPC

The ROAST Project Goal

The goal of this project is to reduce the effort and errors involved in sharing weed data by defining a conceptual and practical structure into which weed management data can be captured or transformed. Standardizing on an accepted data model provides for transport between data capture systems, aggregation systems, online mapping systems, and modeling and analysis systems.

Those seeking to develop new or enhanced database systems for storing weed mapping data can also benefit by basing their systems on this model, reducing the effort of deciding how to go about this step.

The model serves to structure any weed monitoring data, from the most simple observations to the time-sequenced data produced by monitoring weed populations and tracking treatments. We refer to it as the "ROAST" Data Model because of the main elements in it.

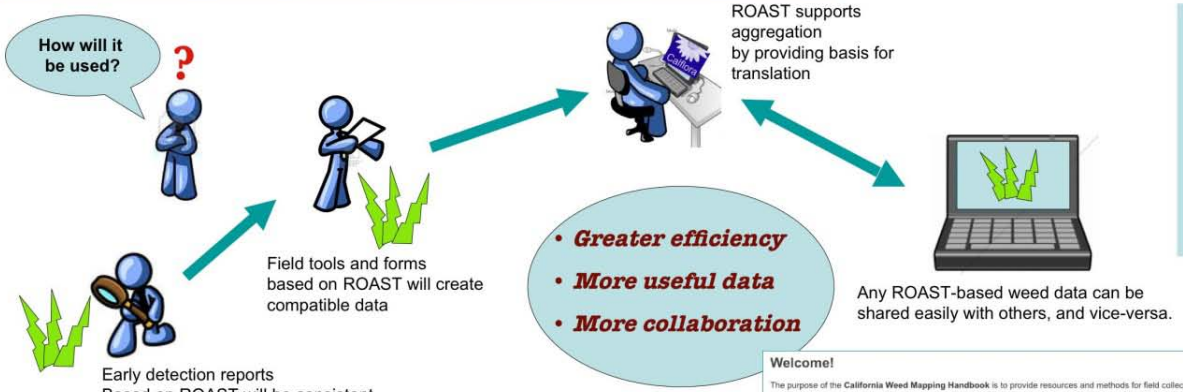
R **Region**- describes an area such as a land parcel, a park, or a management unit. Regions can contain Occurrences and/or Surveys.

O **Occurrence**- describes a single species and a reference location.

A **Assessment**- describes the status of an Occurrence on a given date.

S **Survey**- lists multiple species with prevalence or absence for each in a Region for a given date.

T **Treatment**- describes a treatment applied to one or more Assessments or Surveys.

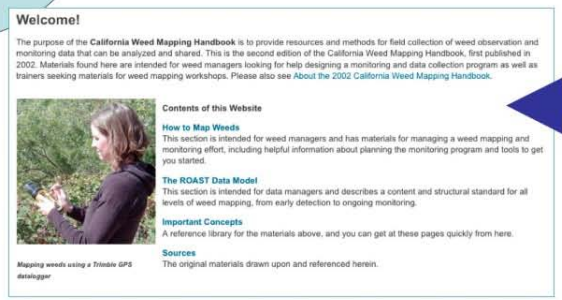


- ***Greater efficiency***
- ***More useful data***
- ***More collaboration***

The ROAST Data Model Records:

- **Point, polygon, and line data**
- **Changes over time (history)**
- **Multi-species surveys**
- **Absence data**

Compatible with WIMS and GeoWeed as well as most observation-based systems


Welcome!

The purpose of the **California Weed Mapping Handbook** is to provide resources and methods for field collection of weed observation and monitoring data that can be analyzed and shared. This is the second edition of the California Weed Mapping Handbook, first published in 2002. Materials found here are intended for weed managers looking for help designing a monitoring and data collection program as well as trainers seeking materials for weed mapping workshops. Please also see About the 2002 California Weed Mapping Handbook.

Contents of this Website

How to Map Weeds
This section is intended for weed managers and has materials for managing a weed mapping and monitoring effort, including helpful information about planning the monitoring program and tools to get you started.

The ROAST Data Model
This section is intended for data managers and describes a content and structural standard for all levels of weed mapping, from early detection to ongoing monitoring.

Important Concepts
A reference library for the materials above, and you can get at these pages quickly from here.

Sources
The original materials drawn upon and referenced herein.

Mapping weeds using a Trimble GPS datalogger

The new digital California Weed Mapping Handbook is coming soon!

- The ROAST Model offers a common tie between tools and services.
- Want to be a reviewer? Email deanne@sonomaecologycenter.org

Why Create a Common Weed Monitoring Data Model?

- Pave the way for sharing and re-using weed monitoring data
- Provide a blueprint for new data systems

Differences among weed monitoring data systems in data structure and content currently present us with stumbling blocks when we attempt sharing between organizations, aggregating or moving data between data management systems, and re-using the data for new purposes. By providing a common and consistently defined set of records, fields, and vocabularies, we take a major step forward toward more useable and interoperable weed monitoring data.

Project Status

- Beta ROAST Model is available for review at http://calweedmappinghandbook.org
- First implementation planned at Calflora for BAEDN weed tracking purposes
- Model being synched with BAEDN and Cal-IPC data standards, integrated into the Handbook
- Plans for GeoWeed export directly to Calflora using the Data Model

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